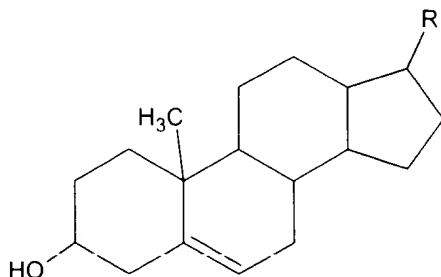


IN THE CLAIMS:

- 1 1. A nitric oxide releasing compound comprising:
2 a lipid molecule selected from (a) phosphoglycerides, (b) lipids having a
3 sphingosine base as a backbone, (c) monoacylglycerols, (d) diacylglycerols, (e)
4 glycosylacylglycerols, and (f) sterol compounds of the formula:



- 5 where R is a branched aliphatic chain of eight or more carbon atoms.
6 said lipid molecule provided with a nitric-oxide containing group which
7 comprises (a) a —S—N=O moiety, (b) a —O—N=O moiety, or (c) a
8 N—N=O moiety.
9 moieties.

- 1 2. The compound of claim 1, wherein the lipid molecule is said lipid having a
2 sphingosine base as a backbone.

- 1 3. The compound of claim 2, wherein the lipid having a sphingosine base as a
2 backbone is N,N,N-trimethylsphingosine.

- 1 4. The compound of claim 2, wherein the lipid having a sphingosine base as a
2 backbone is a sphingolipid.

- 1 5. The compound of claim 4, wherein the sphingolipid is a ganglioside.

- 1 6. The compound of claim 1, wherein the lipid molecule is said phosphoglyceride.

1 7. The compound of claim 6, wherein the phosphoglyceride is phosphatidylinositol
2 or phosphatidylcholine.

1 8. The compound of claim 1, wherein the lipid molecule is said sterol compound.

1 9. The compound of claim 8, wherein said sterol compound is cholesterol.

1 10. The compound of claim 1, wherein said nitric-oxide containing group
2 comprises a —S—N=O moiety.

1 11 The compound of claim 1, wherein said nitric-oxide containing group comprises
2 a —O—N=O moiety.

1 12. The compound of claim 1, wherein said nitric-oxide containing group comprises
2 a >N—N=O moiety.

1 13. The compound of claim 12, wherein said nitric-oxide containing group

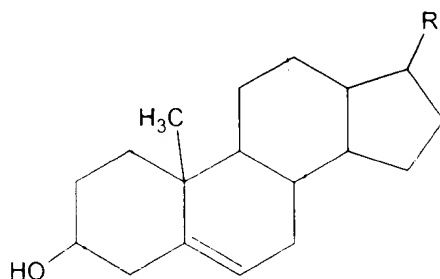
2 comprises a $\begin{array}{c} \text{—N—N—O—} \\ | \\ \text{N=O} \end{array}$ moiety.

1 14. The compound of claim 13, wherein said nitric-oxide containing group

2 comprises a $\begin{array}{c} \text{—N} \quad \text{N—N—N—O} \\ \diagup \quad \diagdown \quad | \\ \text{N} \quad \text{N=O} \end{array}$ moiety.

1 15. A pharmaceutical composition comprising at least 0.001 wt% of the compound
2 of claim 1.

- 1 16. A pharmaceutical composition comprising at least 0.01 wt% of the compound
2 of claim 1.
- 1 17. A pharmaceutical composition comprising at least 0.1 wt% of the compound of
2 claim 1.
- 1 18. A pharmaceutical composition comprising at least 1 wt% of the compound of
2 claim 1.
- 1 19. A pharmaceutical composition comprising at least 10 wt% of the compound of
2 claim 1.
- 1 20. A pharmaceutical composition comprising at least 90 wt% of the compound of
2 claim 1.
- 1 21. A method of forming a nitric oxide releasing lipid molecule comprising:
2 providing a lipid molecule having a nucleophilic moiety selected from a
3 thiol moiety, an amine moiety and an alcohol moiety, said lipid molecule selected
4 from (a) phosphoglycerides, (b) lipids having a sphingosine base as a backbone, (c)
5 monoacylglycerols, (d) diacylglycerols, (e) glycosylacylglycerols, and (f) sterol
6 compounds of the formula:



- 7
8 where R is a branched aliphatic chain of eight or more carbon atoms; and
9 supplying said lipid molecule with a nitric-oxide containing group at a
10 position corresponding to said nucleophilic moiety, said nitric-oxide containing

- 11 group comprising a —S—N=O moiety, a —O—N=O moiety, or a
12 >N—N=O moiety.

1 22. The method of claim 21, wherein the lipid molecule is said lipid having a
2 sphingosine base as a backbone.

1 23. The method of claim 21, wherein the lipid molecule is said phosphoglyceride.

1 24. The method of claim 21, wherein the lipid molecule is said sterol compound.

1 25. The method of claim 21, wherein said nitric-oxide containing group comprises
2 a —S—N=O moiety.

1 26. The method of claim 21, wherein said nitric-oxide containing group comprises
2 a —O—N=O moiety.

1 27. The method of claim 21, wherein said nitric-oxide containing group comprises
2 a >N—N=O moiety.

1 28. The method of claim 28, wherein said nitric-oxide containing group comprises

2 a $\begin{array}{c} \text{—N—N—O} \\ | \\ \text{N=O} \end{array}$ moiety.

1 29. The method of claim 21, wherein an alcohol moiety on said lipid molecule is
2 converted to a group comprising a thiol moiety prior to supplying said lipid
3 molecule with said nitric-oxide containing group.

- 1 30. The method of claim 29, wherein an —S—N=O moiety is formed on said
2 lipid molecule at a position corresponding to said thiol moiety.
- 1 31. A topical liquid comprising the compound of claim 1.
- 1 32. A topical liquid selected from the group consisting of a solution, a dispersion, a
2 spray, a lotion, a gel, a cream and an ointment, said topical liquid comprising
3 the compound of claim 1.
- 1 33. A drug delivery system comprising a medical article and the compound of
2 claim 1.
- 1 34. The drug delivery system of claim 33, wherein the medical article is a bandage
2 or a patch.
- 1 35. The drug delivery system of claim 33, wherein the medical article is an
2 intravascular medical device.
- 1 36. The drug delivery system of claim 35, wherein the intravascular medical device
2 is selected from a balloon catheter, an injection catheter, an infusion
3 catheter, a stent, a stent graft, and a distal protection device.
- 1 37. The drug delivery system of claim 33, wherein the compound of claim 1 is
2 provided within a polymer matrix.
- 1 38. The drug delivery system of claim 37, wherein the matrix is a biocompatible
2 matrix selected from a stable polymer matrix and a biodegradable polymer
3 matrix.

- 1 39. The drug delivery system of claim 33, wherein the compound of claim 1 is
2 dissolved or dispersed in a solution.
- 1 40. The drug delivery system of claim 33, wherein the compound of claim 1 is
2 adsorbed on a tissue-contacting surface of said medical article.
- 1 41. The drug delivery system of claim 33, wherein the compound of claim 1 is
2 provided within a micelle or a liposome.
- 1 42. The drug delivery system of claim 33, further comprising a therapeutically
2 effective amount of an auxiliary therapeutic agent selected from agents
3 having antineoplastic activity, agents having antiproliferative activity, and
4 agents having both antineoplastic and antiproliferative activity.
- 1 43. A method for therapeutically administering nitric oxide to a patient comprising
2 administering the compound of claim 1 to said patient.
- 1 44. The method of claim 43, wherein the compound administered topically.
- 1 45. The method of claim 43, wherein the compound is administered within the
2 body.
- 1 46. The method of claim 45, wherein the compound is administered by
2 implantation.
- 1 47. The method of claim 45, wherein the compound is administered by an
2 intravascular delivery device.

1 48. The method of claim 47, wherein the intravascular delivery device is selected
2 from a balloon catheter, an injection catheter, an infusion catheter, a stent, a
3 stent graft, and a distal protection device.

1 49. The method of claim 45, wherein the compound of claim 1 is administered by
2 direct injection.

1 50. A method of treating or preventing a condition selected from atherosclerosis
2 and myocardial infarction in a patient, said method comprising
3 administering to said patient an amount of the compound of claim 1
4 effective to treat or prevent said condition.

1 51. A method of treating or preventing restenosis in a patient, said method
2 comprising administering to said patient an amount of the compound of
3 claim 1 effective to treat or prevent said restenosis.

1 52. A method of treating or preventing a condition selected from peripheral
2 vascular disease, stroke, impotence, septic shock and arthritis in a patient,
3 said method comprising administering to said patient an amount of the
4 compound of claim 1 effective to treat or prevent said condition.

1 53. A method of treating or preventing a condition selected from cancer and
2 bacterial infection in a patient, said method comprising administering to said
3 patient an amount of the compound of claim 1 effective to treat or prevent
4 said condition.

1 54. A method of treating or preventing a condition selected from one or more of
2 impetigo, epidermolysis bullosa, eczema, neurodermatitis, psoriasis, pruritis,
3 erythema, hidradenitis suppurativa, warts, diaper rash and jock itch in a

4 patient, said method comprising administering to said patient an amount of
5 the compound of claim 1 effective to treat or prevent said condition.

1 55. A method of promoting wound healing in a patient, said method comprising
2 administering to said patient an amount of the compound of claim 1
3 effective to promote said wound healing.

1 56. A method of reducing cells present in an atherosclerotic lesion in a patient,
2 said method comprising administering to said patient an amount of the
3 compound of claim 1 effective to reduce the cells present in said
4 atherosclerotic lesion.

1 57. A liposome comprising the compound of claim 1.

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